

WHAT IS CLAIMED IS:

1. A resist pattern thickening material comprising:
  - a resin;
  - a crosslinking agent; and
  - a nitrogen-containing compound.
2. A resist pattern thickening material according to Claim 1, wherein the nitrogen-containing compound is a basic compound.
3. A resist pattern thickening material according to Claim 1, wherein the nitrogen-containing compound is one of amine, amide, imide, quaternary ammonium, and a derivative thereof.
4. A resist pattern thickening material according to Claim 1, wherein the resist pattern thickening material exhibit at least one of water-solubility and alkali-solubility.
5. A resist pattern thickening material according to Claim 1, further comprising a surfactant.
6. A resist pattern thickening material according to Claim 5, wherein the surfactant is a non-ionic surfactant.
7. A resist pattern thickening material according to Claim 6, wherein

the non-ionic surfactant is at least one of a polyoxyethylene - polyoxypropylene condensation product, a polyoxyalkylene alkylether compound, a polyoxyethylene alkylether compound, a polyoxyethylene derivative, a sorbitan fatty acid ester compound, a glycerin fatty acid ester compound, a primary alcohol ethoxylate compound, a phenol ethoxylate compound, an alkoxylate surfactant, a fatty acid ester surfactant, an amide surfactant, an alcohol surfactant, and an ethylene diamine surfactant.

8. A resist pattern thickening material according to Claim 1, wherein the resin is at least one of polyvinyl alcohol, polyvinyl acetal, and polyvinyl acetate.

9. A resist pattern thickening material according to Claim 1, wherein the crosslinking agent is at least one of a melamine derivative, a urea derivative, and an uril derivative.

10. A resist pattern thickening material according to Claim 1, further comprising a water-soluble aromatic compound.

11. A resist pattern thickening material according to Claim 10, wherein the water-soluble aromatic compound is at least one of a polyphenol compound, an aromatic carboxylic acid compound, a naphthalene polyhydroxyl compound, a benzophenone compound, a flavonoid compound, a derivative thereof, and a glycoside thereof.

12. A resist pattern thickening material according to Claim 1, further comprising a resin containing an aromatic compound in a portion thereof.

13. A resist pattern thickening material according to Claim 12, wherein the resin containing an aromatic compound in a portion thereof is at least one of a polyvinyl aryl acetal resin, a polyvinyl aryl ether resin, and a polyvinyl aryl ester resin.

14. A resist pattern thickening material according to Claim 1, further comprising an organic solvent.

15. A resist pattern thickening material according to Claim 14, wherein the organic solvent is at least one of an alcohol solvent, a chain ester solvent, a cyclic ester solvent, a ketone solvent, a chain ether solvent, and a cyclic ether solvent.

16. A resist pattern comprising:

a resist pattern thickening material to cover a surface of a resist pattern to be thickened so as to thicken the resist pattern to be thickened,

wherein the resist pattern thickening material is applied onto the resist pattern to be thickened after forming the resist pattern to be thickened, wherein the resist pattern thickening material comprises:

a resin;  
a crosslinking agent; and  
a nitrogen-containing compound.

17. A process for forming a resist pattern, comprising:

applying a resist pattern thickening material onto a resist pattern to be thickened after forming the resist pattern to be thickened so as to cover a surface of the resist pattern to be thickened, wherein the resist pattern thickening material comprises:

a resin;  
a crosslinking agent; and  
a nitrogen-containing compound.

18. A process for forming a resist pattern according to Claim 17, wherein a material of the resist pattern to be thickened is at least one of a novolak resist, a polyhydroxystyrene (PHS) resist, an acrylic resist, a cycloolefin - maleic acid anhydride resist, a cycloolefin resist, and a cycloolefin - acryl hybrid resist.

19. A process for forming a resist pattern according to Claim 17, further comprising:

developing the resist pattern thickening material, after applying the resist pattern thickening material.

20. A semiconductor device comprising:

a pattern formed by using a resist pattern thickened by using a resist pattern thickening material, wherein the resist pattern thickening material comprises:

- a resin;
- a crosslinking agent; and
- a nitrogen-containing compound.

21. A process for manufacturing a semiconductor device comprising:

- applying a resist pattern thickening material onto a resist pattern to be thickened, after the resist pattern to be thickened is formed, so as to thicken the resist pattern to be thickened and form the resist pattern; and

- patterning the underlying layer by etching using the resist pattern as a mask so as to pattern the underlying layer, wherein the resist pattern thickening material comprises:

- a resin;
- a crosslinking agent; and
- a nitrogen-containing compound.